

Date: Tue, 6 Sep 94 04:30:13 PDT
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>
Errors-To: Ham-Ant-Errors@UCSD.Edu
Reply-To: Ham-Ant@UCSD.Edu
Precedence: Bulk
Subject: Ham-Ant Digest V94 #298
To: Ham-Ant

Ham-Ant Digest Tue, 6 Sep 94 Volume 94 : Issue 298

Today's Topics:

 Calibrated Antenna Tuner=analyzer? (2 msgs)
 CBs meter, or SWR? (2 msgs)
 Distributed Capacity twisted loop
 Helical antennae : software? sources?
 How do I check my swr meter ?
 MW radio on my long wire antenna???
 Omni Loop or Horizontal Loop Antenna??

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>

Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>

Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 5 Sep 1994 16:25:01 -0400
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!swiss.ans.net!
newstf01.cr1.aol.com!search01.news.aol.com!not-for-mail@network.ucsd.edu
Subject: Calibrated Antenna Tuner=analyzer?
To: ham-ant@ucsd.edu

In article <34ar64\$481@chnews.intel.com>, Cecil_A_Moore@ccm.ch.intel.com
writes:

>The average 'T' antenna tuner has a series capacitor, an inductor to
>ground, and another series capacitor. If these three components were
>isolated from each other and calibrated, could the calibrated readings
>and a little math turn the antenna tuner into an impedance measuring
>instrument?

Oh, mais oui!

That's very similar to what the old GR impedance bridges do. They use calibrated capacitors (in a bridge arrangement, rather than straight-thru) and the "math" is just in the dial markings.

>Using a 50 ohm 6db pad to isolate the
>transmitter final from the antenna tuner, would the math work for simply
>calculating the impedance seen at the transmission line?

Bag the pad, you don't need it. Just make sure your source (transmitter) is tuned to deliver maximum power to a 50 ohm load (if it's hollow-state, tune it up in a dummy load first).

>My MFJ antenna tuner has too much electromagnetic field interaction
>between the capacitors and the inductor to be very useful as a calibrated
>analyzer but what if there were no interaction because of shielding?

The shielding is a lot of the magic involved. It's gotta be watertight! But it can be done with careful attention to grounding and signal paths.

scott nx7u@aol.com
(in gilbert, az!)

Date: 5 Sep 1994 21:41:26 GMT
From: ihnp4.ucsd.edu!usc!cs.utexas.edu!asuvax!chnews!fallout!
cmoore@network.ucsd.edu
Subject: Calibrated Antenna Tuner=analyzer?
To: ham-ant@ucsd.edu

NX7U (nx7u@aol.com) wrote:

: The shielding is a lot of the magic involved. It's gotta be watertight!
: But it can be done with careful attention to grounding and signal paths.
: scott nx7u@aol.com : (in gilbert, az!)

Hi Scott, thanks for the response. For around \$100, one should be able to build a dual-purpose antenna tuner/impedance analyzer. Would you put each capacitor and the coil in separate metal boxes and connect between them with a short piece of coax? Wonder why MFJ, et.al. doesn't have something for sale like this?

73, KG7BK, 00TC, Cecil_A_Moore@ccm.ch.intel.com (Not speaking for Intel)

Date: Sun, 4 Sep 1994 21:16:00 GMT
From: xnet!quake.xnet.com!hamshack!greg.rusenovich@uunet.uu.net

Subject: CBs meter, or SWR?
To: ham-ant@ucsd.edu

I have an old Realistic TRC-424 CB radio, and a base loaded magnet mount antenna. I also have a SWR meter that can be connected in-line with the antenna. The radio has a meter that reads RX signal, and has a small range for TX power. When I use the SWR meter and adjust the antenna as close to 1.00 as I can get, the TX power drops low on the scale. And when I adjust the antenna for max TX power, the SWR goes to hell.

Which meter should I use to adjust the antenna, or is there something else I am missing?

grusenov+alif7%563361@mcimail.com

* CMPQwk #1.4* UNREGISTERED EVALUATION COPY

Date: 5 Sep 1994 18:47:15 GMT
From: ihnp4.ucsd.edu!library.ucla.edu!europa.eng.gtefsd.com!uhog.mit.edu!news.kei.com!ssd.intel.com!chnews!fallout!cmoore@network.ucsd.edu
Subject: CBs meter, or SWR?
To: ham-ant@ucsd.edu

Greg Rusenovich (greg.rusenovich@hamshack.com) wrote:

: Which meter should I use to adjust the antenna, or is there something
: else I am missing?

Hi Greg, I don't know anything about your transmitter or SWR meter but if it were my ham rig giving those results, it would make sense. My power meter reads forward power which is a combination of generated power and re-reflected power, ie. power reflected by your antenna and then reflected again by your transmitter (or antenna tuner in my case). If your transmitter is putting out 5w and your forward power reading is 7w then 2w is re-reflected power and your SWR is not 1/1.

If your SWR meter is working correctly, adjust for minimum SWR. Then check your forward power to see if it matches the power your transmitter is supposed to be putting out. I'm assuming you are using a 50-ohm SWR meter, 50-ohm coax, and a 50-ohm antenna.

73, KG7BK, 00TC, Cecil_A_Moore@ccm.ch.intel.com (Not speaking for Intel)

Date: 5 Sep 94 16:56:24 GMT
From: news-mail-gateway@ucsd.edu
Subject: Distributed Capacity twisted loop
To: ham-ant@ucsd.edu

Andy,

>I built the 40M version and it worked extremely well. Results during CW
>qso's netted me an average RST 2 S-Units less than a full size inv vee
>for 40M. The 40M loop was in my attic about 22 feet above ground. I
>suspect that's not enough height for the 160M version but 80M should be
>OK...
>

I also built the 40M version (from the info in the 7/94 CQ article) but am
not having very good results. I may have mis-copied the stub lengths.
What are you using for the open stub and hairpin? Was the open 1 3/8
inches or feet? How about the open stub and loop length? Thanks for any
info.

73 Mark KA3LFG

Date: Mon, 5 Sep 1994 05:05:12 GMT
From: netcomsv!netcom.com!veltman@decwrl.dec.com
Subject: Helical antennae : software? sources?
To: ham-ant@ucsd.edu

Derick Siddoway (siddoway@ee.utah.edu) wrote:

: Hello. My senior project requires that I understand helical antennae.
: I have read Kraus' book, and several of the IEEE Proceedings etc. on
: helical antennas, but I had a hard time finding hard equations to use
: in modeling. (I'd rather not write too much code, since we're still in
: the "blue sky" mode in our design, and helical antennas may not be used
: at all.)

: Anyway, does anyone know of some good software for modeling helical
: antennae? Failing that, does anyone know of a good source for some
: equations so I can model them on my own?

: -----
: Derick H. Siddoway __o If you stew cranberries like
: siddoway@ee.utah.edu _>\<,_ applesauce, they taste much
: University of Utah (_)/ (_) more like plums than rhubarb

: Department of Electrical Engineering

does. - (Groucho Marx) -

Derick,
Check "Antenna Engineering Handbook"
Richard C. Johnson
Henry Jasik
Second Edition
McGraw-Hill

ISBN 0-07-032291-0

Pages 13-1 through 13-21

This should provide some useful material. If this doesn't provide you with what you need, e-mail me, and I'll look again. Good luck on your project

Regards,

Paul WA6OKQ <veltman@netcom.com>

Date: Sun, 04 Sep 1994 23:08:05 -0800
From: ihnp4.ucsd.edu!usc!elroy.jpl.nasa.gov!lll-winken.llnl.gov!apple.com!
kip-65.apple.com!user@network.ucsd.edu
Subject: How do I check my swr meter ?
To: ham-ant@ucsd.edu

In article <Cv5KBv.Hx6@sunsrvr6.cci.com>, jdc@cci.com (James D. Cronin)
wrote:

> In article <greed.14.0005F533@sl0011.srl.ford.com>,
> Gary A.Reed <greed@sl0011.srl.ford.com> wrote:
> >How does one go about checking a swr meter to see if it is a "good" meter or
> >junk? If this is not easy to do, what is a good meter to buy (if you don't
> >have a lot of money buy this..... but if you do, buy this.....) ?
> >Thanks Gary WB80FU
>
> Take a forward and reverse power reading, then switch the SWR meter's
> connections. The previous forward reading should equal the new reverse
> reading, and vice versa.

I also keep several values (50, 75, 93 ohm) of small BNC terminators around for testing and simple calibration checks. Just run a small amount of power (most of these will handle a few watts for a very short time) from the

transmitter thru the SWR meter into the various terminators. The 50 ohm should yield 1:1, the 75 1.5:1, and the 93 1.86:1.

Don North ---- Apple Computer, Inc. ---- Advanced Technology Group
...!apple!north north@apple.com NORTH KD6JTT etc,etc,etc
{ Facts are facts, but any opinions expressed are my own, and *do not* }
{ represent any viewpoint, official or otherwise, of Apple Computer, Inc }

Date: Tue, 06 Sep 1994 00:36:16 -0400
From: newsflash.concordia.ca!altitude!interso.hip.cam.org!user@uunet.uu.net
Subject: MW radio on my long wire antenna??
To: ham-ant@ucsd.edu

Is this normal, if I receive some MW radio station on my 57 Ft long wire horizontal antenna?

If not, how I can made correction?

Thanks for your reply

interso@cam.org

Date: Tue, 6 Sep 1994 02:43:06 GMT
From: netcomsv!netcom.com!herbr@decwrl.dec.com
Subject: Omni Loop or Horizontal Loop Antenna??
To: ham-ant@ucsd.edu

I was looking thru the Antenna West antenna catalog, and saw an ad for their Omni LOOP antenna. It looks like a full wavelength antenna, suspended horizontally, and can be coax fed. It looks like a closed loop wire, with the center pin of the coax connector going to one end of the wire and the other end of the wire going to the ground or shield side of the coax.

This looks like it might be an excellent low profile antenna for my qth if they really work. I am wondering if anyone out there has had any experience with this kind of antenna, and what kind of results on might expect. The 40 meter version is 142 feet in length, or in a quad / diamond shape of 36 feet per leg. I wouldn't be able to get the antenna totally horizontal, might be 25 feet on one side and 10 12 feet on the other.

Any thoughts or suggestions would be appreciated.

73's

HERB - KG60K

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herbr@netcom.com

End of Ham-Ant Digest V94 #298
